

Walter S. Henly, M.D.

Biographical Statement

Walter S. Henly was born on January 30, 1927, in Greenville, Texas. He received his B.S. in chemistry from the University of New Mexico, Albuquerque, and his M.D. from Johns Hopkins University School of Medicine in 1947 and 1951, respectively. Henly interned in surgery at Johns Hopkins Hospital, Baltimore, and served as a medical officer in the United States Naval Reserve (USNR) during the Korean War. He completed a surgical residency program and thoracic surgery residency at Baylor College of Medicine in Houston, Texas. Between 1958 and 1986 Henly served in successive research and academic posts at Baylor College of Medicine. He was appointed clinical professor of surgery in 1994. Henly is the former president of the Houston Surgical Society and the Houston Heart Association.

Interview Synopsis

Dr. Henly begins the interview by describing his medical training and the formative education of the late Dr. Michael E. DeBakey. Dr. Henly narrates his long association with Dr. DeBakey at the Baylor College of Medicine. He recounts their collaboration on the surgical treatment of thoracic aneurysms and angina pectoris and describes the challenges of open-heart surgery in the 1950s. Dr. Henly describes Dr. DeBakey's work on the roller pump and offers observations on Dr. DeBakey's personality and lifelong emphasis on surgical perfection. Dr. Henly concludes the interview with observations on Dr. DeBakey's legacy and his impact on the Houston medical establishment.

Dr. Michael E. DeBakey Oral History Project
Interview with Dr. Walter S. Henly
Conducted on July 8, 2010, by Jason H. Gart

JG: My name is Jason Gart, and I am a senior historian at History Associates Incorporated in Rockville, Maryland. Today's date is July 8th, 2010, and we are at Methodist Hospital in Houston. Please state your full name and also spell it.

WH: My full name is Walter Samuel Henly, H-E-N-L-Y. The last name is not the English spelling, but it's H-E-N-L-Y.

JG: Terrific. History Associates has been retained by the Digital Manuscripts Program of the History of Medicine Division of the National Library of Medicine to conduct a series of oral history interviews with prominent cardiologists, cardiac surgeons, and researchers associated with the late Dr. Michael E. DeBakey. The purpose of this oral history is to capture recollections for the historical record, and to assist the staff of the National Library of Medicine in developing a *Profiles in Science* website on Dr. DeBakey. I want to start, before we get into Dr. DeBakey's career, with your background for a few minutes. You were born in Greenville, Texas, in 1927?

WH: Correct.

JG: You attended the University of New Mexico, and you did your medical degree with Johns Hopkins University of Medicine in 1951?

WH: Yes.

JG: What brought you into medicine?

WH: I guess a desire to be helpful. My uncle in Greenville was a general practitioner, and he was always an idol. Matter of fact, I am named after him. His first name was Walter. During World War II, he delivered every baby born in Hunt County. I thought he was, perhaps, one of the greatest physicians ever. On my way to Hopkins, I stopped by to see him, and he said that some day, I would be a better doctor than he was. I received those words with disbelief because I felt like he was one of the greatest doctors ever. So he was the basic inspiration.

JG: You joined the Baylor faculty as an instructor in 1958, and you become an Assistant Professor of Surgery in 1960.

WH: Right.

JG: You had a very long association with Dr. DeBakey. When did that start? And also, what did you know about Dr. DeBakey before you met him, and what were some of your first impressions?

WH: Well, one of the things that I felt like that I wanted to be was a cardiac surgeon because of my training at Johns Hopkins. I had, actually, started a residency program at Hopkins when I was drafted for the Korean War as a doctor. It so happened that when I got out of the Navy in 1954, I was looking for a place to work, and one of the persons that had been in medical school and internship with me in Baltimore was here as a resident with Dr. DeBakey.

And, of course, being a fifth-generation Texan and having my friend, Dr. Ralph Dunn, suggest that Dr. DeBakey's star was starting to rise (which, indeed, it was) that this might be a better place for me to be than staying on the East Coast where I had opportunities to remain. So I decided to come home to Texas. When I got here in 1954, this was six years after Dr. DeBakey arrived in Houston. Things were in a pretty formative stage at that time.

JG: Dr. DeBakey was born in September 1908 in Lake Charles, Louisiana?

WH: Right.

JG: His father was a pharmacist. His parents were Lebanese. What do you know about his childhood? He was the oldest of five children. Did he ever speak to you about his childhood or things of that sort?

WH: Well, he told me enough to realize that he, as a young person, was a very hard-working person. Matter of fact, I think he even referred to the time when he used to dig ditches. Also, he was an avid reader. His father bought him an *Encyclopedia Britannica*, and I believe that he is reported to have read the entire encyclopedia.

JG: His brothers and sisters did as well, I think.

WH: That's right. He was, of course, native-born, but his parents had immigrated, I think, from Lebanon. And there was a strong affinity between Dr. DeBakey and the Lebanese community, and also for a lot of Middle Eastern people. They got along well with Dr. DeBakey.

JG: You mentioned digging ditches. He dug ditches? What did you mean by that?

WH: Well, he worked as a common laborer. He was very physically strong. I think that is one of the things that I feel accounted for his longevity, his ability to work and to overcome a lot of physical obstacles, which he did in the past.

JG: He had one brother and two sisters, and the brother also became a physician.

WH: Ernie DeBakey.

JG: Was there a push by his father for them to become physicians? Or was it just something that you think Dr. DeBakey decided to do on his own?

WH: I am not sure of the motivation, but I know that Ernie DeBakey was an accomplished thoracic surgeon in Mobile, Alabama. I became extremely good friends with him because one of my fellow interns at Hopkins ended up as his partner. It was a doctor by the name of Larry McGee. When he went into the practice of thoracic surgery in Alabama, he joined Ernest DeBakey as an associate. And as a matter of fact, when Ernest felt like, when I was working with Dr. DeBakey, he felt like Dr. DeBakey might be too busy to handle certain things, didn't want him to handle maybe a smaller type case, he sent me the patient.

JG: What about Dr. DeBakey's mother? What kind of mother was she? What type of stories do you know about her?

WH: I am pretty ignorant of his mother and his parents. But his sisters have worked around Baylor and Methodist Hospital for years, and are very renowned in the field of medical paper writing.

JG: Dr. DeBakey did his bachelor's, master's, and medical degrees at Tulane?

WH: Right.

JG: Then he did his internship and residency in surgery at Charity Hospital in New Orleans?

WH: He worked with Dr. Alan Ochsner.

JG: Then he decides to do fellowships abroad. Talk a little bit, as much as you know, about his medical training at Tulane University, and then his fellowships in France and then in Heidelberg.

WH: Well, I'm not too sure that I can contribute a great deal about his overseas work. But I knew Dr. Ochsner. As a matter of fact, his son, John, was a year behind me in the residency program here. I know a little bit about Dr. DeBakey's time in New Orleans. He was a very energetic researcher at that time. He did a lot of work with pulmonary disease and with gastric disease. He and Dr. Ochsner were the two proponents associating smoking with lung cancer, and were among the early advocates urging that not smoking would prevent most pulmonary cancers.

JG: Was that atypical in the 1930s? My thought would be that more surgeons would be interested in a clinical route rather than doing research. DeBakey in the 1930s seemed to bridge both?

WH: Yes.

JG: What type of medical training do you think he received at Tulane?

WH: Well, I think he had a fair amount of operative experience. Of course, any charity hospital provides that amount of training over some private-type institutions because the trainee is permitted, perhaps, to do more in a charity institution. He also had a tremendous interest in venous problems. When he was in Europe, he, I'm sure, developed a strong idea for vascular surgery because he was influenced when he was in Europe by his association with René Leriche, who is one of the pioneers of arterial surgery.

JG: You mentioned that Dr. DeBakey observed the association between carcinoma of the lung and smoking. I think it was the late 1930s—1938 or 1939—when he made that observation, published on that. What did he think about people that smoked in the 1950s, 1960s, 1970s, 1980s and 1990s, having made that observation sixty years before?

WH: Well, I think that he certainly did not appreciate the fact that they were smoking because he felt like that that was a disease that, in essence, could be prevented. One of the interesting things, I never ever saw him smoke.

JG: And some doctors would. Some physicians still smoke today. On the NIH campus you see doctors smoking today, and probably more so back in the 1950s and 1960s.

WH: Right. There was a rumor that, occasionally, he would take a puff in his home, but we never saw him smoke around the office. I would call him a non-smoker.

JG: While in medical school, he invented the roller pump?

WH: That's correct.

JG: And later, it became a component of the heart-lung machine?

WH: That's one of his greatest inventions.

JG: Speak a little bit about that.

WH: Well, the roller pump was originally designed to make it a convenient way to do a transfusion from one person to another, to transfer the blood from a vein from someone that was, say, lying next to you having a little pump there that would actually move the blood and put it into the other person. This was a pretty effective way. Now when they started working on heart-lung machines, we needed a way to move the blood, and there were a number of devices to do it. Sometimes it was with air compression around malleable tubes, and inside the tubes would be valves. Another way that was fairly popular was the SigmaMotor pump which had fingers that sort of milked the tubing in a propelling way.

Dr. DeBakey's roller pump became, actually, the gold standard for heart-lung machines because it produced probably the least trauma to the blood and was able to move the

blood more efficiently than some of the other devices that were contemplated. I would say that the invention of this roller pump, which is in use today on almost every heart-lung machine, was one of his greatest inventions.

JG: How did he speak about that invention in the 1930s? Initially, it was not designed for the heart-lung machine. What brought him to tinker with the pump?

WH: Well, I was doing some research in the surgery laboratory as the first heart-lung machines were being developed. We had a machinist in our laboratories that could build anything. As soon as we began to work with moving blood and fluids, Dr. DeBakey brought this concept in and we used it originally. One of the biggest problems at that time was devising a plastic tube which could take the punishment and would be held in place while the roller pump was working. We actually worked out a tubing which had a flange on it which, when it was placed in the jaws of the roller pump, would be held securely in place. Then the roller pump could actually move without moving the tubing also.

JG: Between 1942 and 1946, Dr. DeBakey was a member of the Surgical Consultants Division of the Office of the Surgeon General of the Army. He was a colonel in the Army Reserve. What do you know about his wartime experiences?

WH: Well, I do know that he has reviewed a lot of wartime injuries and written, I think, extensively on his military experience. But his greatest contribution was the idea of the MASH unit, which is the Mobile Army Surgical Hospital. At the time when I was

drafted, I was placed on a surgical team in the Navy, which was designed to function in a MASH unit so that part of my experience in the Navy was in a MASH unit setting, which was due to Dr. DeBakey.

JG: The concept of stationing doctors close to the front has become commonplace. Today in Afghanistan and Iraq surgeons are on the frontline. What led Dr. DeBakey to that observation? Why was he able to see that need where others could not?

WH: Well, I am not sure exactly what brought the idea to his head, but I think in studying war wounds, he realized that the quicker you can get skilled medical attention, the better the survival rate would be for the soldier. He then developed ideas to have these mobile units. As a matter of fact, the Marine Corps, which I was associated with as a Navy surgeon, we had the ability to go ashore and bring a hospital with us. Then we had the ability to move that hospital with operating capabilities forward as the troops advanced to the interior.

JG: Just for the record, you were drafted for the Korean War?

WH: Yes.

JG: What years were your service?

WH: From 1952 to 1954. I was in Korea when the armistice was signed. That was in 1953.

JG: This is a strange question, but in my review of writings on Dr. DeBakey I haven't seen it asked, so I thought I would be the first. What did he think of the television show, the *MASH* television show? I assume he would have thought something of a TV show that explored his idea.

WH: Well, to my knowledge, when I was with him, he never mentioned the *MASH* show. He may have appreciated it. I do know that in his later years, when he gave talks to certain community groups, that he would talk about his contributions, one of his contributions, the MASH unit.

JG: Okay, let's turn for a few minutes to surgery in the 1950s and 1960s. DeBakey was there at the moment that cardiac surgery really blossoms. What was the change point? What was the difference between cardiac surgery in the 1940s and then in the 1950s? And what were the challenges?

WH: Well, actually, I came through at a time when cardiac surgery was developed. At Hopkins, of course, about 1944, Dr. [Alfred] Blalock did his first tetralogy operation. If you followed Dr. Blalock around, and surely by the time I got to medical school, every baby that you saw at Hopkins was blue. That was the beginning of cardiac surgery, but this blue-baby operation was what we call a palliative operation. In other words, if a person was blue from Tetralogy of Fallot where there were four defects, the blue baby operation added another defect, really.

But it improved the flow of blood to the lungs so that the baby then pinked up and could survive. Well, we realized that there was a need to be able to operate inside the heart. Then people started developing ideas to get inside the heart. One of the first approaches was what we call the finger fracture of the mitral valve in patients that had mitral stenosis. Without putting them on the heart-lung machine, which was unavailable at that time, you simply were able to insert a finger into the left atrium, one of the upper chambers of the heart, palpate the valve and, with the finger, actually expand the opening of the valve that was narrowed.

Occasionally, there would even be a sharp knife that was put on the end of the finger in such a way that you could cut the commissure if you needed to, or that area between the two leaflets of the mitral valve. That was one of the earliest invasive ways. Then we began to do other things. Then it was Walt [C. Walton] Lillehei in Minneapolis who first figured out a way to actually work on a heart by using a family member or compatible person as the oxygenator of blood. What he did was a procedure called cross circulation. This permitted the advancement of heart surgery.

Then John Gibbon developed a machine in Philadelphia, I guess, around 1950 or so. When I was in Philadelphia, Dr. Gibbon asked me to walk through his laboratory and he showed me the machine that he used as the first artificial heart where he did the first few procedures using a machine which could pump the blood as well as oxygenate the blood. Then further improvements in oxygenation came about, particularly at the Mayo Clinic

where they developed what we call the Cadillac oxygenator, which was a membrane-type oxygenator. Then, of course, in Minneapolis, they developed the Lillehei-DeWall oxygenator, which was a bubble oxygenator, which was pretty practical.

I think it was in 1957, I believe, that here in Houston, Dr. [Denton] Cooley did our first open-heart operation, and I was not scrubbed, but I was present in the operating room. What he did was to repair a perforation of the septum between the two ventricles which had occurred in a man who had had a myocardial infarction. That was the first open-heart case ever done in the Houston area. And, fortunately, the patient survived that operation, but the oxygenation of that patient was done with a pretty primitive device, which we referred to as a coffee pot, which permitted the blood to bubble up and be oxygenated, but when it came out, it was foamy. Then as it then traveled down a spiral where there was a defoaming agent, it became a more liquid form, and then could be pumped back into the patient.

JG: You mentioned some of the early invasive procedures. Oxygenation is one problem. In the pumps, it can damage the blood cells. What are some of the other challenges and what were the success rates of those early surgeries?

WH: Well, whenever a person survived, of course, in the early days, we thought it was pretty spectacular. There were a number of cases done by surgeons in Philadelphia, for example, that we were aware of where the risk of the operation didn't seem to justify the

procedure. I think that is probably true when any new significant cardiac technique is developed because, as the knowledge improves, the survival rate and benefit improves.

JG: You arrived in Baylor back in Texas in 1954?

WH: Yes, 1954.

JG: You are now a young surgeon. What is your first interaction with Dr. DeBakey? What is your role on his team at this time?

WH: Well, when I started a residency training program, of course, he was the professor. We worked primarily at the city-county hospital. At that time, it was Jefferson Davis Hospital. This was before the present city-county hospital, Ben Taub General Hospital, was built. We had a tremendous volume of patients. In those days, I might mention that in the South, our hospitals were still separated. We had what we called a white surgery service and a colored surgery service.

JG: They were segregated.

WH: I might allude to that a little bit later, or I might just mention it now. Dr. DeBakey and I had an argument about who put the first black patient in Methodist Hospital. I had always figured that I had done it, a patient who had a dissecting aneurysm. He was a

preacher from New Jersey. Dr. DeBakey convinced me that he was ahead of me by about a year in breaking the color barrier at Methodist Hospital.

JG: What year is this?

WH: That was about 1959 or 1960.

JG: Was there a backlash to that?

WH: There did not seem to be a backlash. I think it was more of a natural evolution. People realized it was going to happen. Particularly with my patient we, of course, had no black patients at Methodist at that time in the late 1950s. But with my patient, it was just an accepted thing. We just worked under that normally. But now as a young resident, we had superiors. The residency program was the pyramidal system. Dr. William Stewart Halsted at Baltimore developed the surgical residency program. And Dr. DeBakey put it to use with magnification, so to speak.

We had a pyramidal residency program which most people were guaranteed to work, have at least three years' training. Then if your work was not quite up to what he expected, you could not progress to a fourth or fifth year. By the end of the fifth year in my day, we were training only three chief residents: one, at the Veterans Hospital; and, two, at the city-county hospital, that completed their training and then were eligible to

take the boards in surgery. That was the early experience. In those days, we had Dr. DeBakey come to the city-county hospital frequently.

He did some of the earliest, most significant cases, particularly thoracic aneurysms that were performed at the city-county hospital in the days even before we had the capability of using the heart lung machine because what we had was the technique called sutured bypass. And just to illustrate this, let me just show you one of the papers that we wrote. This is a technique of sutured bypass. If this is the aneurysm, first we would place a graft from the ascending aorta to the descending aorta, and a graft to the carotid arteries. That would permit us to resect the entire transverse arch and replace it with a graft without the use of a heart-lung machine.

JG: What is the title of this paper?

WH: The title of this paper is "Aneurysm of the Aortic Arch: Factors Influencing Operative Risk," *Surgical Clinics of North America*, by DeBakey, Henly, Cooley, Crawford, Morris and Beall. This was an exciting period of time.

JG: Following on this, DeBakey recognized, I guess, the segmental nature of vascular disease. He realized that healthy artery often adjoined diseased sections?

WH: That's right. In other words, the segmental nature of arterial sclerosis is what permits the surgeon to be effective.

JG: Because you can go in specifically to that section, take it out and—

WH: You can go from good tissue, and bypassing bad tissue, and go to fairly good distal tissue, which means that you can either remove or bypass the obstructions. In the case of aneurysms, the dangerous part of the artery can be removed and replaced with a graft.

JG: This was, I assume, a fundamental observation.

WH: Right.

JG: How did he realize that?

WH: Well, some of the earliest approaches to aneurismal therapy was what they call an endoaneurysmorrhaphy, which means opening the aneurysm and obliterating it just by suturing it shut. Depending on the case of an abdominal aneurysm, depending on collateral circulation to keep the lower part of the body alive. This was done probably in his days in New Orleans in the early days of vascular surgery. Dr. DeBakey actually was, I think, the first person to do an abdominal aortic aneurysm.

JG: In 1952?

WH: Let me look. I know it is here in my notes. Yes, I think that was the date that he first did the first abdominal aortic aneurysm. He replaced that with a homograft. In those early days while I was still at Hopkins, we had done more aneurysms even than Dr. Cooley and Dr. DeBakey in those days. The numbers were like eight or nine. Then by the time I got out of the service, and was here, Dr. DeBakey was well entrenched by removing aneurysms of the abdominal aorta and other aneurysms and replacing them with grafts, usually homografts.

Because they had a special arrangement where we would obtain permission from the medical examiner to take human tissue. One reason Dr. DeBakey got ahead of many people, many surgeons in the United States, in doing aneurismal and aortic work, was that he had a better availability of homograft tissues than other places.

JG: How so?

WH: Well, it was just the medical-legal system here, and the fact that most autopsies that were being done in those days were done on patients that were not embalmed for medical-legal purposes because they wanted to determine the cause of death, and it was more difficult to do that on embalmed people. So there was a greater availability of homografts here in Houston.

JG: Speak a moment, just in laymen's terms, about aneurysms. Almost from the beginning of times—Roman and Greek doctors realized that aneurisms were a very dangerous medical

condition if not treated. The thinness of the blood vessel can almost be like a balloon. There was no way to treat it.

WH: That's correct. Until we began to actually operate on the arteries themselves, you're right. For example, people like Einstein, he died of a ruptured abdominal aneurysm. Once that happened, there was nothing, in those days, that could be done for those people. By the time I had finished my training in surgery, we were at the verge of starting to develop really new things.

One of the things, of course, that Dr. DeBakey did was to develop a synthetic arterial graft. This was an example of how things happen for the best sometimes. By accident we found out about penicillin, because an accident in a laboratory showed that a certain mold could kill bacteria. It happened by chance. This was one of the things that happened in vascular surgery. Dr. DeBakey realized that we needed something that we could take off the shelf instead of using homograft tissues.

What he did was he went down to the department store, and he was looking for some nylon or rayon, and they said, no, we are out of all that material, but we have a new material called Dacron. And he said, "Well, let me have that." He took that home, and on his wife Diane's sewing machine he sewed an aortic graft, a bifurcation graft. With that, of course, along with that came studies in the laboratory that the body could tolerate that material without rejecting it. It became suitable. Nowadays, most synthetic grafts

are made of Dacron and are made with a much more sophisticated knitting and sewing maneuver. So there is a great story that related to the development of the aortic grafts.

JG: This is an example of serendipity in science. If he would have gotten the nylon from Foley's Department Store, would the body have rejected it?

WH: Well, I'm not sure, but I do know that there were a number of grafts that were made of different material that the body did not tolerate too well. One of the grafts was, I believe, a Tapp-Edwards graft, which was a woven graft that tended to sort of unravel after it was in place for a while. But the Dacron grafts were the ones that held up.

JG: In 1953, DeBakey performs carotid endarterectomy, thereby establishing the field of surgery for strokes. Describe the significance of that surgery?

WH: In 1953, he was one of the first to perform a carotid endarterectomy. There was—matter of fact—he and I always had sort of an argument about who did the first successful carotid endarterectomy. Dr. Eastcott, with his associates Pickering and Rob in England, about the same time as Dr. DeBakey did his first carotid endarterectomy. Nevertheless, that procedure has become a well-established procedure for the treatment of stroke. Dr. DeBakey realized that this was going to be a factor. So he went ahead and performed the operation which you just suggested. This procedure, carotid endarterectomy, in today's world, people are still trying to dilate and stint carotid arteries. The risk of this has still

yet to approach the risk and good results that can be obtained with open surgery, which is entitled carotid endarterectomy.

I might mention while we are talking about carotids, there are two techniques that are employed in that operation, which we worked with and stressed in our surgical laboratories. The one technique was the repair of the artery using a patch graft. The other technique is the use of a shunt placed inside of the artery the minute the artery is open, the little plastic tube is placed inside the artery. It continues to carry blood to the brain during the time of the cleaning out of the artery called endarterectomy. Both these techniques are very helpful and have been proved through overall results of surgery, and they were worked with and established through the help of our animal laboratories here at Baylor.

JG: In 1964, with Edward Garrett, he does an aortocoronary artery bypass. Talk a minute about the significance of that surgery. It is now used throughout the world. You take a vein from someone's leg and use it as a bypass.

WH: Well, I might have to start out by saying that, in 1961, Dr. DeBakey and I wrote a paper on the surgical treatment of angina pectoris. At that time, no one had successfully been able to operate on coronary arteries. A lot of experimental work had been done, but the concept of bypass was out there, but the techniques were just being developed because we needed monofilament sutures, and we needed an ability to get to the artery safely and so forth. So we, in the surgical laboratory, we used the Dacron grafts that Dr. DeBakey

brought, four millimeter diameter grafts, and we placed these in dogs, and the smaller grafts functioned satisfactorily for about a month or two before they began to clot off.

At that time in the laboratory we were also using vein patches. Dr. Paul Ellis, one of the thoracic residents, was experimenting using patches, I think—it is in that same paper—to open the artery and repair it with a patch. Dr. DeBakey told me that it was our experimental work that gave him the courage to go ahead with doing the first bypass. This happened in 1964. Dr. Garrett, at that time, when Dr. George Morris and I, about that time, had quit helping Dr. DeBakey in the operating room every day, and so Dr. Garrett and Dr. Howell sort of took over for Dr. Morris and I. Dr. Garrett and Dr. DeBakey took this patient to surgery, who had extensive disease, with the idea that they were going to do a coronary endarterectomy.

They found that the disease was too extensive. They felt that they could not do the endarterectomy and perhaps get the patient out of the operating room. So they, with the experimental background that was going on in the laboratory, and the fact that we had had some experience with using veins to bypass arteries in the leg, they used the vein to bypass the left anterior descending coronary artery. The interesting thing about this is the patient survived, but the patient had a myocardial infarction associated with the surgery. Dr. DeBakey and Dr. Garrett felt like, well, this may not have been a successful procedure.

Well, the patient was discharged. But seven years later, the patient came in with more trouble and had a cardiac catheterization, which demonstrated that the vein graft that they had put in seven years previously was open and working. There is a picture of it in his literature. I think I may have a picture of that. It is in a paper that Dr. DeBakey and I published just before his death. There is a picture of this and this write-up here in the *Methodist Journal*. This is a picture seven years later of the graft open.

JG: What is the title of this article that you are showing me?

WH: The title of this article is “Surgical Treatment of Angina Pectoris: A Fifty-Year Retrospective from Baylor/Methodist” by Drs. DeBakey and Henly. This was published in the *Journal of the Methodist DeBakey Heart and Vascular Center*.

JG: This article that you write with Dr. DeBakey is still important and highly cited. What led to you working together with Dr. DeBakey to write this article?

WH: Well, I had always been interested in coronary disease. Because, as a medical student listening to Dr. Blalock, I was convinced that coronary obstruction was a mechanical situation that could be amenable to surgery, which goes along with this segmental concept that you talked about Dr. DeBakey studying. So I was always interested.

When I joined the Department of Surgery, I had applied for and was awarded an established investigatorship. That established investigatorship was based on a project to

determine the myocardial blood flow. Because I was concerned that, in those days, we had no way of evaluating what we were doing. There was a procedure called a Vineberg Operation where Dr. Arthur Vineberg of Canada had developed this procedure which took the internal mammary artery and just, with it bleeding, placed it in a tunnel in the left ventricle and relied upon chance to produce collateral circulation, which would be helpful to the patient. Well, we had no way of evaluating. There were no arteriograms in those days.

JG: That is what that is, the images you are showing me, that is an arteriogram.

WH: Yes.

JG: So you were operating blind, so to speak?

WH: That's right. In those days, in 1959 and 1960, we had no way of evaluating how we were improving the circulation to the heart. We wanted a procedure to do that. That is what started a lot of my thinking. Then it gradually worked into doing experimental work on animals. First we were working with using what we call a Beck II operation, where Claude Beck in Cleveland had introduced this procedure saying that it was helpful to patients with coronary artery disease, and what this did was to put arterial blood flow into the venous system of the heart. We were working with that, and this helped us develop techniques on working with small blood vessels.

But this is what caused us to write this article, pointing out the fact that in the future might be, I think, the use of the bypass procedure. This paper is interesting because it was written way before anybody had even had the concept of doing coronary artery bypasses.

The other thing that I wanted to mention was that the reason that Dr. DeBakey's report did not come out until later is because they did not realize that they had done a successful procedure. And, actually, Dr. Favaloro and Dr. Dudley Johnson were in two different institutions in the north part of the world. They published a series in 1968 and 1969 of their cases using coronary vein bypasses. But then, by that time, it was, I think later, I am not sure when that other paper of Dr. DeBakey's was published, but it was published later. Dr. DeBakey and Dr. Garrett must get the credit for doing the first one.

But then again, Dr. DeBakey said that this was almost a gift of God for him to be able to do that first one because Dr. David Sabiston at Johns Hopkins, a year previous, had done a vein graft from the aorta to the right coronary artery, end to end. Unfortunately, his patient did not survive. He died on the second day from a stroke, so that Dr. DeBakey had had the honor of doing the first successful vein bypass.

JG: In May 1965, *Time Magazine* features Dr. DeBakey on the cover, and the article is about his pioneering work in cardiovascular surgery. Was he excited to be on the cover of *Time Magazine*?

WH: I think he was, although he never spoke about it. I noticed that in those days, international recognition was quite competitive because Dr. DeBakey realized, when you look around and see the Texas Medical Center, it is probably the largest medical center like this in the world. Most of it is due, not all, but most of it is due to Dr. DeBakey's efforts, and the efforts of others, of course. Dr. DeBakey really was the engine, so to speak, to make this whole medical center grow. Having national recognition was part of that. Whenever they got national recognition, like a picture on *Time Magazine*, that always helped bring patients in and helped them financially have the ability to grow.

JG: Let's talk about the growth of the Texas Medical Center for a few minutes. When Dr. DeBakey arrived in Houston in 1948, he was the only board certified surgeon?

WH: I think that is correct.

JG: People would hunt deer in the woods around the hospital.

WH: That's correct.

JG: He developed the residency program.

WH: There were only about two or three surgeons of note when Dr. DeBakey arrived: George Waldon, John Robert Phillips, and Frank Denman.

JG: He became a great booster of Houston. He convinced community leaders in Houston that they needed a first-class medical school. Talk about his relationship to the real estate developer Ben Taub. Who was Mr. Taub?

WH: Ben Taub was a very wealthy person who, basically, had, I think, a cigar store. He had many interests and was a great benefactor to the Houston community. He used to come every Sunday to the city-county hospital and make rounds. Dr. DeBakey would always meet him there. The two of them would go through the city-county hospital together. That was why (Ben Taub had an interest in the indigent people of our community through a city-county hospital) the new city-county hospital felt like he deserved to have this hospital named after him. Our present city-county hospital is the Ben Taub General Hospital. He was a great benefactor and a very good friend of Dr. DeBakey's. When Ben Taub got sick, we just moved him into one of the corner rooms here at Methodist and took care of him for, I think, at least two years that I recall.

JG: I read that when Dr. DeBakey became chairman in Department of Surgery, and then as he was promoted, he would only take his teacher's salary, the fees from all his surgeries, which would later be in the millions, he gave back to the College of Medicine.

WH: That is correct. I am not aware of the specifics of this, but I do know that he developed a foundation which has been very supportive of all the medical efforts. As an individual, I am familiar with some of his charges, and I will give you this little anecdote. We were making rounds one day and a school teacher had been operated on. When we came into

the room, she said, "Dr. DeBakey, I'm very worried about how I can pay you."

Dr. DeBakey said, "I don't charge school teachers and nurses," and one other group, I think. But teachers were one of them, and she had a big smile afterwards. One of the things that a lot of the younger doctors, particularly after Medicare came in, they would complain. Dr. DeBakey never raised his fees much.

His charges were always reasonable. Not only that, he never turned a patient away, nor did I, nor did many others. Any time a patient came to him that he felt like that the patient had no ability to pay, but that he could take care of this patient better at Methodist than, say, send him to the VA or to Ben Taub, he never turned those patients down. He and I, and others, would go to the hospital and say, "We're willing to do the work without recompense. Will you give this patient a break?" The Methodist Hospital never refused us, never refused me one time when I had such a patient. This is one reason, I think, that this institution is great is because they never lost sight of the need for charity for certain individuals in our community.

JG: Was that a reflection of the period that Dr. DeBakey went into medicine, in the 1930s and 1940s, where it was truly seen as the noblest of professions?

WH: Well, one of the things. I told Dr. DeBakey, I said he and I practiced medicine at a great time. We didn't have to worry about the business of medicine. In other words, we had plenty to do, our charges were reasonable, we never had to worry about having our money to pay our staff, or pay our malpractice, and the usual overhead expenses because

we were so busy doing things. We never worried about the business aspect of medicine. If we wanted to give our services, that was fine. We still do that. My partner and I, I am still operating, although I am eighty-three years old.

My partner and I, the other day we did a tremendous operation on a patient, double mammary coronary bypass, knowing full well that we would never get any recompense for that, and we still do that. This is one thing that the government does not realize. For example, when Medicare came in, the government really didn't realize the amount of charity work the doctors did. Because we had thousands of dollars on the books that we would never collect from the elderly.

Then the government all the sudden says, "Well, we will pick up that tab." All of the sudden, they found that, "Well, this is going to be more expensive than we thought." Because they did not count on the fact that doctors were doing the work and taking care of people and not getting paid. Now we were taking care of older people and doing the work and getting paid.

JG: That's fascinating. Another significant innovation was that Dr. DeBakey was the first to film surgeries. He set up in the operating room a full-time photographer. Talk about that development and what it was like to actually have photographers in the operating room.

WH: Well, I knew Gene Davis really well, who was our Methodist photographer. His name is Gene Davis. One of his helpers was a fellow by the name of Bobby Dolby. The reason I

know him well is because after he retired from doing pictures, he became my ranch foreman. Gene Davis was a great professional. He devised techniques of making sixteen millimeter movies and developed mechanical platforms where he could put himself in the proper position to film these cases.

I might mention a case that Dr. Morris and I did. Dr. DeBakey did scrub in on the case. This is a patient, a doctor that had an acute dissecting aneurysm. This surgery was done about 1962. The paper was published in 1963. This doctor had collapsed in Louisiana. He was a resident in surgery at the Mayo Clinic. But he was home visiting, and he collapsed in Louisiana, and they brought him here, and Dr. Morris and I opened him up, and this was one of the early successful repairs of an extensive aortic dissection. We had Gene Davis come in and set up the camera, and he photographed this.

Dr. Morris and I and Dr. DeBakey were recognized even in Britain for this particular movie, which was on repair of acute dissecting aneurysm. And this, of course, has been published. This is just one of the reprints.

JG: The title of this article is “Correction of Acute Dissecting Aneurysm of Aorta with Valvular Insufficiency,” and this was in the *Journal of the American Medical Association*.

WH: Right. By that time, only a very few people, and there were only six people had ever done operations of that type.

JG: And the movies, eight millimeters or sixteen millimeters?

WH: Sixteen millimeters.

JG: They were then used for training for people all over?

WH: That's right. These were then given to the American College of Surgeons film library, and they were utilized. For example, I made a movie on carotid endarterectomy. It was used for a number of years just to show surgeons all over the country of our operative technique doing carotid endarterectomies. As I think about it, our techniques have changed very little since I made that movie.

JG: Let's talk for a few minutes about research on the mechanical heart or the artificial heart. DeBakey searched for the artificial heart, I guess, his entire career. Is it safe to say that?

WH: He did. He was one of the early proponents to realize the need. Of course, I think Charles Lindbergh first had an idea of an artificial heart. But Dr. DeBakey got the first grant for working on developing an artificial heart. I was active in the surgical laboratory during the time when a lot of this research work was being done on the artificial heart by Dr. Domingo Liotta and Dr. Bill Hall, those two worked extensively. One advantage that we had at Baylor was that we had a mechanical technician engineer by the name of Lou Feldman who could build anything. It would look like it had just come out from the most

polished manufacturer. Any idea we had need of a mechanical nature that we wanted built, he could build it.

JG: Was he a trained engineer or a machinist?

WH: I think he was more of a machinist. He certainly could turn out perfected work. He would work with Dr. Liotta and Dr. Hall. They, of course, incorporated Dr. DeBakey's suggestions and finally ended up building a usable artificial heart, which was being tested in laboratory animals. I think it had been used in seven or eight calves before the controversial episode happened where one of Dr. DeBakey's associates took it and implanted it in a patient, producing a rather spectacular controversy.

JG: Just to move back a second, what are some of the technical and surgical challenges involved in developing an artificial or mechanical heart? What was the challenge?

WH: The pumping of blood without thrombosis. In other words, you had to consider the fact that you wanted to move blood through this machine for a long period of time. In order to move it, you had to have a pumping mechanism which usually employed valves. Then you had to see that a thrombus did not occur because usually that was the thing that caused the whole procedure to fail.

JG: What is thrombosis?

WH: Clotting. Then in addition, of course, there is the problem of infection. So, ideally, you wanted to have an artificial heart that could be implanted so that you did not have any connection with the outside world, because these connections from the outside world that would go to the energy source, for example, might endanger infection and, ultimately, cause failure. Then the actual energy source, of course, was a big thing because, ideally, you would want to be able to recharge the batteries, so to speak, with a non-invasive technique. They were trying to work on a completely implantable artificial heart. Well, actually, it has turned out now that these cardiac support devices which we have frequently are used not for long-term support, but for temporary support until a heart transplant can occur.

JG: You mentioned that DeBakey was one of the first to testify before Congress and obtain federal support for the artificial heart program.

WH: That is right.

JG: What brought that about?

WH: Well, I think he realized first that he had a good influence with the politicians, with Presidents. He had a good relationship with President Lyndon Johnson, and he had a good relationship with President Richard Nixon. I think that he felt like that he could call on the government to be helpful in a project. This was one of the things that he did, was that he participated in a rather statesmanlike way on many occasions.

JG: I read that there is a Hufnagel artificial heart valve.

WH: Right.

JG: And that when the first Hufnagel valves were put into use, the main cause of death was suicide because the patients could not stand the noise of the valve.

WH: It was a noisy valve. There have been a number of valves that have been designed, and Hufnagel was one of the first but it was not a valve that could be put in place in the normal anatomical spot. It was so big, it had to be placed in the descending thoracic aorta. It was noisy. You could hear the ball moving up and down, clicking, from maybe a block away almost. But other valves have been produced that were a little noisy. I remember that when we were using ball valves, St. Jude had a ball valve that they produced that I put in one fellow that he came back to see me a number of months later, and you could hear it by just talking to him, you could hear the valve.

It was not too loud, but he said, "You know, doc," he said, "I haven't been able to kill a deer since you operated on me. I put myself seventy-five feet up in the air and the deer still hear me." That was one of the things that we learned in the early days that we had to do, we had to make valves so that they were noiseless.

JG: DeBakey performed, one of his innovations was the left ventricular assist device.

WH: That's right.

JG: Talk a little bit about the use of this device, and then also in the 1970s, he hit a wall in what could be accomplished.

WH: I understand you are going to talk with Jimmy Howell. Jimmy and I were talking about this the other day. He, actually, helped Dr. DeBakey to put in the first left ventricular assist device. I was under the impression that Dr. Crawford had done it, but he said no, that he actually participated with Dr. DeBakey doing that, so you might ask him some of those extra details. This was a device that, actually, was used successfully. When was it, 1964?

JG: In 1966, I think.

WH: Okay, 1966. We had had this device that had been worked out in the surgical laboratory where we could actually suture the device to the atrium and use it to relieve heart failure, and take the strain off the left ventricle by pumping it from the atrium to the aorta. This was first used and the patient did survive, and that is mainly my knowledge of that first episode.

JG: Let's talk a little bit about heart transplants. In an eighteen-month period, DeBakey did twelve heart transplants, including a historic multiple-transplantation procedure, but he

discontinued the program in 1970 because of organ rejection problems. DeBakey's entry and exit from transplantation surgery, in fact, influenced other people operating on the national stage, and I wonder what you might say on that.

WH: Well, I do know that we here at Houston were among the first to do transplants. Of course, Christiaan Barnard did the first one in South Africa. But about the time that that was going on, we were actually, Dr. Beall and I were switching hearts in dogs. That was only on an acute basis when we didn't expect the animals to survive. But the rejection process was the main problem with early heart transplants until they found a better way to not only match the donor heart to the recipient, but also to develop drugs to help stall the rejection process.

Even today, you know, I have never been a heart transplant surgeon as such, but even today, I think if you have a survivor for ten years, you have done something really worthwhile because a lot of these patients develop not the usual type of coronary artery disease, but they get a diffuse coronary thickening, which causes it to actually, ultimately, have failure of the transplanted heart. Some of these people actually have a second heart transplant, which, of course, can be successful and can carry them on. I feel like that this is a good procedure, but it needs to be reserved for really suitable candidates.

JG: DeBakey was quite proud, I guess, in the 1980s and 1990s, of the VAD. This was the size of a thumb, this ventricular assist device.

WH: Right.

JG: It came out of work with NASA.

WH: Right. He and George Noon worked with this considerably. George, I think, has been a real proponent of this device, and it makes a lot of sense because it can be placed using catheter techniques. A small device, and it can be placed in such a way that it adds to the propelling of blood, and taking the strain off the left ventricle, without a lot of major surgery. This is a device that is still under investigation and does carry some optimism.

JG: I found it interesting because this is a continuous flow pump as opposed to—

WH: Pulsatile.

JG: So there is no pulse?

WH: There is no pulse.

JG: That must be startling. People did not think you would be able to do that.

WH: That's right.

JG: Let's spend a few minutes talking about Dr. DeBakey's personality. He described himself as a perfectionist. He worked eighteen hours a day. In articles that were written about him, he was known as Iron Mike and the Texas Tornado. Others have said that Dr. DeBakey had a very high energy level. He was a dynamo. I wonder what your impressions were, having to stand next to him in surgery.

WH: Well, he was pretty much what you have outlined. He was a perfectionist. He insisted that everything be done just right in the operating room. He had very little respect for someone of mediocre talent. Matter of fact, we have not talked about this, but I think Dr. DeBakey's greatest contribution was in his ability to train surgeons. So that in the operating rooms, this is one of the things that I can say, in my particular instance, it has been my observation that when a person finishes his surgical training, he may meet all the paper qualifications, but is he at his maximum technical capability? Probably not.

Certainly Dr. DeBakey, working with him in the operating room every day for five years, developed me into a much better surgeon than I ever thought I would ever be, particularly from the time I left my surgical training to the time I finished working with Dr. DeBakey, I was a totally different kind of guy. And this is true for a number of doctors. I am just one of many that Dr. DeBakey has trained. This educational training program is part of it, so that in his perfectionism, he used to say, "Why does everybody have to make the same mistakes I make?" I feel like that he wanted everyone to do the work precisely, and get the right kind of expected results. All of us fell into that line to make sure that we did not have technical errors.

One of the things, in working with him in the early 1960s, I call this the developmental time of cardiac surgery. In contrast, people who came along later, like Gerald Lawrie and George Noon, were more in what I call the service time, because a lot of the procedures had been developed. Some of them, of course, were changing and they were improving as the natural case, but mainly in the 1950s and 1960s, we were developing a lot of these things. In the 1970s and 1980s, we were taking care of people and applying the things that had been developed.

One of the things, too, is Dr. DeBakey was working hard. It is reported that he might just sleep about two hours a night, not only was he working hard, but he expected everybody else to work hard. I have to tell you this story, which I have written about. One Sunday I came in to Baylor. His primary office was still on the first floor at Baylor Medical School. I came in on a Sunday morning, and Dr. DeBakey looked up from his desk. He was working on papers and shuffling things. He said, "Sam, where is everybody?" I said, "Well, Dr. DeBakey, it is Sunday. I suppose they are in church." He said, "Well, why aren't they here doing the Lord's work?"

That is just exactly the way he felt. He was married to medicine, and that was his calling. He did not appreciate anybody not being there. I must admit that those of us who served with Dr. DeBakey, like Dr. Cooley, Crawford, Morris, myself, all of us had families that suffered because he demanded that we put medicine first in our lives. That that was probably one of the big pitfalls of being a close associate of Dr. DeBakey.

JG: He had four sons and a daughter. He was married, his first wife was a nurse.

WH: Diane.

JG: Diane. Then he was a widower for a time and he remarried and had another daughter. I read that he often would sleep in his office. He worked eighteen-hour days. What did his first wife think about that? Did you ever talk to him about his family life?

WH: Well, Diane was very supportive. I knew her. She really took a shine to helping the residents and young associates of Dr. DeBakey. She would make sure that we had plenty to eat and tried to help us out a little bit from time to time. I think she was supportive and understanding of Michael. She always called him Michael. His second wife I have known a little bit. I have been to a couple of meetings where she has been present, but I know nothing much of their personal life, although she also seemed to be supportive and understanding. Their daughter has had medical interests, and is doing very well.

JG: His children from his first marriage, I do not think any of them became doctors?

WH: No, there is one that is a doctor. I think he is an OB/GYN doctor. But two of them are dead. I think Mike, and I am not sure of the other name, are still alive. I think the doctor one is still alive. But Dr. DeBakey did talk to me about the death of one of his sons that died of a gastric malignancy. This was a great concern and affected him deeply when he

lost his son. But, let's face it. When the children were little, they were raised by the mother because Dr. DeBakey was spending most of his time in the hospital.

JG: How about for you during those five years? I assume you have children?

WH: Yes.

JG: How did your wife negotiate your relationship with Dr. DeBakey?

WH: Well, that was a difficult time. But, again, I had two boys and the wife raised the children. We tried to spend as much time as we could at home, but it was difficult because we were working in the hospital, taking care of patients, and writing papers, and doing research. And, again, we were all dedicated to medicine.

JG: Was Dr. DeBakey a mentor to his students?

WH: I think so, yes. As a matter of fact, there was a lot of complaining of the students because, frequently, when they were on his service, they had to wait around for him to come and make rounds and do teaching rounds. Sometimes they would wait an hour or more, and that sort of was upsetting to some. I think everyone really appreciated the fact that he made the effort. As I said, his teaching and education program is one of his strong points. For example, he helped found a high school for medical science.

It is still functioning today for taking care of young people who are interested in medicine and medical things, and his efforts started with the young people, and carried through with medical students, and carried through with his residents and his younger staff. He was conscious of training throughout all of life. When I would talk to him, shortly before he died even, he would tell me, "Sam," he said, "We need to think of what the future holds." He was always thinking about leadership, the future, and improving medicine, and all of the aspects of medicine.

JG: What about his bedside manner?

WH: Well, he had a good bedside manner. He might not be completely versed on his patients, particularly when we were running 150 to 250 patients in the hospital, he may not have known all of the details, but he relied completely on his younger associates to take care of the details. He would come in and he would talk to the patient in a very friendly way, just like I talk to you about the teacher that could not pay the bill. Even though he would spend only a short period of time, when you are making rounds on 150 people, you cannot spend too much time. But he was there with the proper comments for every patient, and they listened to his every word.

JG: I read in *Reader's Digest* that he would see something like thirty-seven patients in thirty minutes?

WH: Probably.

JG: What about his relationship to the surgical staff in the operating room? He could be a little bit—

WH: [Laughter] Well, he could be tough on his younger people. I was fortunate. I did not seem to get criticized as much as some. But he could be critical. I think he was critical because he expected more. He was not critical because you were not doing a proper job, but it was because you were not doing a better job. You see what I mean?

JG: Always pushing people to improve themselves?

WH: Always pushing. Just like he said, “I don’t want people to make the same mistakes that I make.” This is one of the things. For example, a lot of the residents got fired. He would take his big finger and push on the chest and say, “But you did not do what I told you to do.” Many of the residents, Dr. DeBakey would fire them, but they wouldn’t go away. They would just come back the next day, and he would have forgotten it and just continue on as if nothing had happened. Others he sort of sent away because he knew that they were not the quality that he wanted to continue in the work.

I remember one guy that had been fired seven times, one of the residents that was on his service. The last time, he and Dr. DeBakey both came out of the room in tears. They were both crying. But the next day, the resident who had been fired seven times was back working, and it was life as usual. [Laughter]

JG: Was he a flawed character? Was his perfectionism a flaw?

WH: I never considered his personality to be flawed. First place, he was always one of the first to get down to see a patient. He was always good about returning calls. He kept his doctors in line, and most of them were very happy with the service that he rendered. I would not consider his perfectionism a flaw. He was just a pretty hard-working, well-rounded guy. He was well educated. He could talk to you on almost any subject. Some people did not think he was a pleasure to be around, but he certainly commanded respect.

JG: His former students and residents founded the Michael E. DeBakey International Surgical Society. Talk about the work of the society.

WH: Well it seems like nowadays, every important professor has to have a surgical society. It has been a good organization to have the people come back to the institution where they trained. A lot of our people that he trained have been from foreign countries, as well as from other parts of the United States. It is always good to have them come back. They present papers, some of their original work, and Dr. DeBakey has always been supportive of that, and it has been good to see some of these people.

Now while we are visiting that, I might mention that there are a number of people that Dr. DeBakey has trained and participated in their traineeship, as well as Dr. Cooley, that

they have gone to the different parts of the world and been leaders in their area. I can give you an example. Ted Dietrich, who left Dr. DeBakey, he worked closely with him for a few years, and then he moved to Arizona, formed the Arizona Heart Institute. Ed Garrett, who worked with him for a little while, he moved to Memphis and was very active and prominent in leadership capabilities in Memphis. Oscar Creech was one of the first to leave the Department of Surgery. Oscar Creech became professor of surgery at Tulane University. And then, of course, Lars Svensson is now one of the leading doctors at the Cleveland Clinic.

I will say this. A lot of what his trainees have done has been related to the time that they finished their training. For example, when Dr. Blalock was training people, there were a lot of untrained people and a lot of professorships that were just sort of waiting, you know, like Henry Bahnson went to Pittsburgh. Dave Sabiston went to Duke. Dwight McGoon went to the Mayo Clinic. All of them went to prominent leadership posts. Dr. DeBakey did not train people that became professors everywhere mainly because those professorships were just not available. He trained operating surgeons. He trained surgeons to take care of people and to do what he was doing.

JG: He authored more than 1,600 articles, books, chapters. He was an extremely prolific writer?

WH: Yes, a lot of papers.

JG: In a personal essay he wrote in the 1980s, he spoke about the importance of self-discipline. He is quoted as saying, "Next to intellectual curiosity, perhaps self-discipline is most important for continuing education." He would write early in the mornings?

WH: Yes.

JG: What are some of your thoughts on his writing?

WH: Well, he had a lot of help with his sisters because, for example, they could do a lot of the minutia work. He could put down his ideas, and they could pick up the references and put things together for him. But a lot of the papers that were written were written by his younger people. For example, these papers I have shown you were ones that I picked of some of my papers that were associated with him that I thought might be of interest. But, usually, the second author is probably the one that wrote the paper.

Dr. Beall was a very capable surgeon, but he was also very much of an academician. He was two years behind me in the residency program. Dr. Cooley remarked about him. He said, "Dr. Beall has made more trips to present papers than he has made incisions," which may or may not have been complimentary. But nevertheless, Dr. DeBakey's writings were prolific, and I must admit that he participated vigorously.

For example, in this last paper that he wrote that I participated in, I brought the idea to him of us writing a paper, talking about fifty years of coronary surgery at Baylor and

Methodist. He thought that was a good idea. We started out two years before he died, and it was interrupted for about a year because of his dissecting aneurysm. But after he recovered, he actually participated vigorously in helping to write the paper so that he was a participant in paper writing, even though a lot of the basic work was done by a younger member of the staff.

JG: You mentioned his competition with other surgeons and his feud with Dr. Cooley. I think Dr. Cooley has written that the feud benefited both men because, in some sense, competition is not all bad. I wonder what your thoughts on that are.

WH: Well, let me start by saying that there was competition, even within the department and with those that were without the Department of Surgery, and as you say, competition is good. In my particular instance, let me start by saying this: In 1965, Dr. DeBakey came to me and said, "Sam, your practice is getting so big that I think you need to go into private practice."

Mainly, I wasn't spending the time to help write papers and help with surgery. I didn't have the time because I was taking care of my own patients. I said, "Well, Dr. DeBakey, can I use the heart-lung machine?" He said, "No, those things belong to Baylor." Well, to make a long story short, Methodist felt that a private service to do cardiac surgery was important because the people who we were training, the only place they could go to work was in another academic institution.

JG: Right. Because your research was so cutting edge.

WH: Right. So I formed a group, and we were the first group, one of the early groups to ever do heart surgery on a private practice basis. But we remained working at Methodist. I felt like it was very important to have peer scrutiny. I started open heart surgery at Hermann, St. Joseph, and the Memorial Baptist Hospital. I felt like it was important for us to have a service at Methodist where the work of the private doctors could be under the scrutiny of what we considered the best cardiac surgeons around. Getting to the competition idea, on the private service, we were using cardioplegia before the academic service.

And other things that we were doing, we were doing mammary artery implants before the academic service. One reason for that was that, to take the mammary arteries down for grafts required a little more time. We did not have as many cases to do, so we had a little more time. Dr. Morris, an academic surgeon, was very much against the use of mammarys, because he felt like that it increased the operating time and caused more morbidity.

Eventually, some of this competition spilled over into the academic. We watched what they did, and they watched what we did. For example, Dr. Cooley was, for example, using a different aortic valve about every two or three months. I said, "There is no way I can do that." So I said, "We have got to watch somebody who is not changing so much." We were watching each other all the time and competing a little bit. A good private

service, I think, helped Dr. DeBakey and the academic side, and certainly, it helped us.

That was one of the things that the competition was there and good, and it probably gave this whole medical center extra energy that it needed.

JG: I read an interview in which Dr. Noon said that Dr. DeBakey never felt displeased that his techniques became obsolete, that he always appreciated that science progressed.

WH: Right. I think that is true. For example, the operations that I learned about in medical school were not being done when I entered practice. In other words, if you don't learn and change, you will be outdated and actually be bypassed. The surgeon's life and the doctor's life is one of continual learning. That's what the great institutions teach. You just don't get educated and that's when your education stops. You continue learning your whole life.

JG: Donald McRae, in *Every Second Counts: The Race to Transplant the First Human Heart*, notes that the race to transplant the first heart was almost as compelling as the race between Americans and the Russians to land on the moon. What were DeBakey's views of Christiaan Barnard, Adrian Kantrowitz, Norman Shumway, and Richard Lower.

WH: Well, I am not sure I know of his private views. I don't know that he had any expressed view on that particular subject. I never heard him talk about Christiaan Barnard. I think that he wanted to be competitive. For example, there was a lot of competition between Dr. DeBakey and Dr. Cooley. Dr. DeBakey was not as good a cardiac surgeon as

Dr. Cooley initially. But Dr. DeBakey, with his determination and his help from some of the younger doctors to facilitate putting the patients on the heart-lung machine and so forth, became a very capable cardiac surgeon.

In essence, even though there was a great disagreement, Dr. Cooley and Dr. DeBakey buried the hatchet a year or so ago, I think always there has been mutual respect. We were all working to benefit Methodist, Texas Medical Center, and Baylor, when Baylor and Methodist were together.

JG: DeBakey emerged on the international stage. One of the other roles that he played was that he saw people from all over the world, he operated on the Shah of Iran, he operated or supervised surgery on Boris Yeltsin, he operated on the Duke of Windsor. He served as consultant to Eastern Bloc countries and helped establish cardiovascular programs in Egypt, Saudi Arabia, Yugoslavia. He operated on Jerry Lewis and Frank Sinatra. He was friends with George Bush, Sr. You mentioned his friendship with LBJ, Henry Kissinger. Did he talk politics with his patients?

WH: Well, I'm not sure. He operated on Jeanette MacDonald, and he operated on Marlene Dietrich. It was not uncommon for him. We operated on The Shadow, Lamont Cranston. I helped him do that case. We operated on Mr. Brown of Brown & Root. So we were always operating on VIPs. Sometimes he would sit and talk with them a little bit about something besides medicine, but to my knowledge, he never spoke extensively about politics to any of them.

JG: But he was also, in many ways, a politician. I am not sure if that is the right word, but he served on several government commissions: the Hoover Commission, which reorganized the Executive Branch, and that was in 1949. He helped create the National Library of Medicine. He was the chairman of the Board of Regents of the National Library of Medicine on two occasions. Lyndon Johnson appointed him Chairman of the President's Commission on Heart Disease, Cancer and Stroke. He was, in many ways, a medical statesman, I guess is the best phrase. What was that like?

WH: Well, I remember during the time I was with him, he made a lot of trips to Washington. I think he became, to some extent, disillusioned. Because, first place, he wanted to establish a system of regional medical centers. Although his concept was good, I think, he did not get the political support that he needed. I think that he had a feeling that many times, the politicians were using him to accomplish their purposes.

Dr. DeBakey originally thought that he could influence the politicians more than he could. He found out, I think, that they sort of used him to get their ideas across and their agenda going. He became a little bit disillusioned with national politics towards the end.

JG: Dr. Noon was quoted in the *New York Times* saying that, over the years, there were many DeBakey's. "He was chancellor, he was chairman of the Department of Surgery, he was a teacher, national and international leader." Which one of these roles do you think Dr. DeBakey liked best?

WH: Being a doctor. When I thought about coming over here, I thought, you know, Dr. DeBakey has had many titles, but the title he liked the best was just Dr. DeBakey.

JG: He had some hobbies. He loved sports cars.

WH: He did that.

JG: He owned a Maserati, a Ferrari, a Porsche. He had a very heavy right foot.

WH: Well, I know a number of his stories, which we won't go into all of them. But one time, he took his Maserati towards his farm out near Fayetteville, Texas. As he topped a hill, he was probably going over 100, and there was a police car. The policeman turned on his light and stopped him, and said, "Dr. DeBakey, you know how fast you were going?" Dr. DeBakey said, "I am not sure." The policeman said, "I think you were going about 75 or 80." Right then, he knew he had a friend, and he got a warning ticket.

But there are so many stories about Dr. DeBakey. For example, Dr. McMurray, one of the young members of our department, when we were parking between Methodist and St. Luke's, Dr. DeBakey parked out there, and then parked in front of the medical school. Dr. McMurray said, "Dr. DeBakey, are you going to the medical school?" He said, "Yes." And McMurray said, "Could I go?" And he said, "Yes, climb in." So Dr. McMurray opened the door to his Cadillac Deville, and by that time, the car was

moving. He managed to sit down. He never got his seatbelt fastened, but the door never closed until they got to the medical school because of the centrifugal force. That is a typical story of Dr. DeBakey and his cars.

JG: He bought a Porsche even when he was in a wheelchair towards the end of his life.

WH: That is right. One more story. George Morris and I were talking for several months, about this Chrysler 300C, which had just come out with a powerful engine in it, and we talked about it, and talked about it. One day we looked up, and there was Dr. DeBakey driving a Chrysler 300C. That was a white one. Dr. Morris bought a red one, and I bought a black one. Somebody came up to us right after that and said, “Do you have to own a Chrysler 300 to be a member of the Department of Surgery?” [Laughter]

JG: What type of Ferrari did he have?

WH: Most of the ones that he drove like that were automobiles that were given to him.

JG: In 1980, in an interview he did with the *American Medical News*, he said, “I’ll let medical historians assess what I have done.” I’m wondering what your assessment is of his career.

WH: Well, I think, personally, that he was one of the greatest surgeons that ever lived. He was an innovator. We have not talked about it, but one of the things that I think is a great

contribution was that he devised the first clinical classification of dissecting aneurysm of the aorta.

He and I worked this classification out. This is the article that we wrote on "Surgical Treatment of Dissecting Aneurysm of the Aorta: An Analysis of Seventy-Two Cases." It was published in *Circulation* in 1961 by DeBakey, Henly, Cooley, Crawford and Morris. A more popular classification is a Stanford Classification. The simple surgeons can only say A and B, but in this paper we have got Types I, II, III and IV. The basic importance of this classification is that the method of treatment is different. For example, in Type II, it is a localized lesion. In Type III, it is a localized lesion. They can be excised and the patient cured.

These Types IV and Type I, they are treated mainly by palliation because of the extensiveness of the lesion. Type II was the one that Dr. DeBakey had at age ninety-eight, in which Dr. Noon utilized the techniques that Dr. DeBakey had developed to resect this lesion in its entirety and leave him with a normal, functioning aorta. I think the DeBakey classification, even though it is not as popular as the Stanford, and perhaps I am prejudiced because I helped him devise it, is one of his good contributions to medicine.

JG: You alluded to his operation, to the Type II aneurysm he developed. What are the odds that he would develop an aneurysm—versus a cancer, liver cancer, or pancreatic cancer?

WH: Well, they say if you keep a white horse alive long enough, he will die of a malignant melanoma. I think that is the case. Dr. DeBakey was not prone to develop malignancies. I think he had had some GI trouble. George Jordan had operated on an ulcer or something. He lived so long that what is going to happen is that, ultimately, an artery wears out or develops a weak spot.

JG: He did not exercise. He did not take the elevator—he would walk the stairs.

WH: He would take the stairs, yes.

JG: I remember reading something where he said he was not one that would go out to the gym and exercise.

WH: He would not waste time. But he did take the stairs. It was not just one flight up and two flights down. He would take the residents, and the residents would have to follow him up and down the stairs. One funny story is that they were running up and down the stairs one day making rounds, and when they came down the stairs, they had about twenty medical students behind him, and the resident grabbed the door handle to open the corridor, but his hand slipped off the doorknob, and the door did not open, and Dr. DeBakey hit the wall, and all the students were right behind him, sort of crowded him quite a bit. It is one of the memorable stories.

He kept himself in shape by doing that. He did not use the elevator. Plus, the fact that he did not want to wait for the elevator. He had his own elevator key. And if somebody happened to get on the elevator, he would use the key, and if somebody said, "Dr. DeBakey, I am getting off here," he said, "No, we are going to ten." He had control of the elevator. [Laughter]

JG: What were the most important things he taught you about surgery, about teaching, about surgical research, and about patient care?

WH: Well, the patient, of course, is the most important thing. You need to be very proficient in what you do. All of us were trained by Dr. DeBakey, I think, I can name a bunch of them right down the line, all excellent technicians. Dr. Lawrie, Dr. Garrett, Dr. Howell, all of us had enough monitoring by Dr. DeBakey that we came out pretty much as a duplicate image in many ways.

We never lost sight of the fact that the patient is very important. He was very concerned whenever things didn't work out successfully for his patients. He felt that, and all of us, I think, feel the same way that if we do not get the right results, then there is something that we might have done better, and we work towards that end. He instilled the idea of being sort of a super doctor.

JG: If you have one piece of advice, one lesson learned from your association with Dr. DeBakey that you would like to pass onto a future surgeon operating ten or twenty years in the future, what would that be?

WH: Well, I think one of the things that is important is to keep your interest keen in medicine, and stay up to date, and look to the future. Because those doctors in the future are going to have better tools and better knowledge, and we expect them to be better doctors than we have been. Does that make sense?

JG: Yes, it does.

WH: That is what I think. I might just take one minute to just look at my notes and see if there is something that I might want to say.

JG: We did not talk about his work with the VA hospitals. I am not sure if you want to add anything on that.

WH: Well, I never spent much time at the VA, although I am very familiar with the fact that he was a strong proponent of the VA, the hospital system. As a matter of fact, the VA Hospital here in Houston is now the DeBakey Veterans Administration Hospital. It used to be when he first came to Houston, it was a naval hospital. He realized right away that that would be a great place to train surgeons. He incorporated the VA Hospital into the training program as well as the city-county hospital. One of the things that we sort of

alluded to is the development of the entire medical center. He took good care and had a good relationship with the influential, the movers and shakers of Houston.

As you looked around the room and saw the pictures, when I came here, Methodist Hospital was just a very small hospital initially. It doubled in size to where it was called the Main Building. Then we had the Dunn, and then we had the Neurosciences Institute. Then we had Scurlock. It has just been growing. In addition, the other institutions have been growing. Look how Children's Hospital has grown, and look how MD Anderson Cancer Center has grown, how the University of Texas is growing.

The Texas Medical Center owes a lot to Michael DeBakey. I think this was one of his great accomplishments that he was the basic energy for this medical center. Things have changed, and hopefully, things will get a little better. As I mentioned, I thought his training program was probably the greatest. Things are changing in the training of a surgeon now because the government has gotten involved. You can only work so many hours. Because of those stringent rules, a doctor might say, "Well, my time is up. I have to go home." He might be in the middle of a case, or he might be looking after a very sick patient. Then he says, "My time is up. If I don't quit, the hospital will be fined, or the residency program will be disqualified."

We had none of that. When I was on Dr. DeBakey's service, I slept two hours a night and never left the hospital for three months. A lot of people say, "Well, they make bad decisions." I don't think I made many bad decisions taking care of his patients and doing

his work. But I know one thing, it formulated me into a person who could be direct, and steadfast, and follow that patient from beginning of illness to when he was discharged.

This, I think, is something that his training program instilled in all of us. Unfortunately, I am not sure that training programs today measure up to his standards.

JG: I was struck that he supported Medicare when the AMA was against it. He always believed in more federal support for the medical profession. I thought that was interesting.

WH: Well, as I mentioned to you, the government did not realize what they were doing when they formed Medicare. But the surgeons, all of us were glad to get paid for some of these things. And, of course, in Dr. DeBakey's field, most of his patients were maybe sixty-five years of age or older. It made it possible for him to forget about the business of medicine, and continue doing the developmental work that he wanted to do. That may be one of the reasons that he was very much in favor of Medicare.

JG: How has the Texas Medical Center survived after Dr. DeBakey passed?

WH: Well, the institutions, of course, are well respected now. With Dr. DeBakey gone, things have changed. The first thing that was really, in some ways, misfortunate, the separation of Baylor and Methodist. Methodist is trying to recover and so is Baylor trying to recover. In the long run, things may be okay and better because, certainly, this place is not going to fall apart. There are growing pains right now with our training programs. The actual service to patients, I think, is great. The only question that I have about what

has happened since Dr. DeBakey has been gone is that there seems to be a change in the way young doctors are trained. Whether or not that will be for the best or not, I do not know.

JG: What is the health of the medical profession at the national level?

WH: My personal feeling is that we are in a state of indecisiveness. This indecisiveness is sort of like what affects the basic economy that the small business does not know what to do, so they don't hire people. We don't really know the results of the new healthcare laws passed by Congress recently, how it ultimately will affect us. We try to make our plans. The administration here under the leadership of Ron Girotto has been excellent in trying to adapt to changes. What it will, ultimately, mean to patients, I'm not sure. We are in a state of indecisiveness right now. Everyone realizes that we are doing wonderful things. But some of these wonderful things are very expensive. The question is, can we afford to do very expensive things for everyone? I am not so sure that we know the answer to that.

JG: Dr. Henly, thank you very much. It was a pleasure.

WH: Thank you. Nice meeting you, Jason.

JG: Nice meeting you, sir.

[End of Interview]